The payments into the Exchequer out of the "Growing produce," or surplus yearly rents, arising from the land revenues of the Crown, amounted within the year ended 5th January, 1843, to the sum of 133,000*l.*

The balances of the different accounts standing in our names, and in the hands of receivers, deputy-surveyors, and other officers, on the 5th of January, 1843, amounted to 94,307*l.* 15*s.* 8*d.*

LINCOLN,
A. MILNE,
CHARLES ORDE,
Commissioners of Her Majesty's Woods, Forests, &c.

Office of Woods, &c., Aug. 21, 1843.

VICTORIA RAILWAY-STATION, MANCHESTER.

THE Victoria station of the Manchester and Leeds and Liverpool and Manchester Railways at the junction in Manchester just opened, is the largest in the kingdom. It covers a distance from Hunt's Bank to the Ducie Bridge of 852 feet, with an average width of 130 feet; having five main lines of rails from end to end, three of which are appropriated for the main lines, and two are sidings. In addition to this there are other sidings, which may hereafter be used for goods; and the departure lines for the two railways are also sidings, on the south side of the other rails. To the length of 700 feet from Great Ducie street, the station is covered in with an iron roofing, erected in three compartments, the centre one being 59 feet 6 inches span; that on the north side, 38 feet; and that on the south side, 26 feet 3 inches. This roofing, with a length of 700 feet, and an entire width of about 114 feet, forms the largest extent of railway roofing in the kingdom, being little short of 80,000 square feet of iron roofing. This immense roof is supported by the north boundary wall of the station, and by a number of iron columns; and the south side is protected by a similar wall, forming also a retaining wall for the approach road from Hunt's Bank. The walls bounding this approach road are surmounted by ornamental cast-iron railing, instead of stone parapets. The *coup d'œil* of this splendid avenue, viewed from either end, is very striking. The interior of the roof is not left bare, as in some railway stations; but beneath the slates the whole has been boarded, and the joints of the boards covered with laths. During the day, the station is well lighted by skylights in the roof; and, during the night, by a series of gas lamps, fitted with burners for the new light, formed by a radiating combination of the flat flame burners, invented by Messrs. Hall, of King-street. The skylights are glazed with Chance's patent glass, which is a strong, thick, and cheap glass, in panes of about four feet in length by one in width, two of which in length include the extent of the skylights from the ridge downwards. The gas lights consist of a number of radiating tubes, like the spokes of a carriage wheel, perforated with orifices for the flat flame burners. Of these lights there are 15 within the covered station, a large one opposite each booking-office, and several others round the boundary wall down to Hunt's Bank. Connected with them is an arrangement of the utmost importance for such establishments as railways. One central tap at the station regulates and adjusts all the lights there, both along the railway and approaches, and also within the several booking offices, waiting and refreshment rooms. When a train is arriving or departing, the fullest illuminating power is required and used; but, in the intervals between that and the next departure or arrival, the smallest modicum of light is sufficient, and a single turn of the tap will reduce all the lights to any required degree. This will, of course, be the means of considerable saving in the consumption of gas. Every care has been taken to provide ample accommodation for the great traffic which must come on the line. Altogether, it is computed the company possess at the goods' station, Oldham-road, not less than eight acres of land, all applicable to the purposes of the goods' traffic. At and around the Victoria station, notwithstanding its centrality, the company possess no less than about thirteen acres.

At the official inspection of the station and extensive line, General Pasley and the directors were conveyed in two carriages, which, from their novelty, may not be unworthy of notice. Both these carriages are constructed from designs of Mr. Houldsworth, the chairman of the directors, and are intended chiefly for summer use. The Tourist forms one apartment, with a high *dais* occupying the centre third of the floor from end to end. On this *dais* are placed at intervals two seats, backed by others, in all 16 on the *dais*. On the lower floor there are five seats on each side, which turn up, and then leave a passage all round. Four other seats are in the corners, making a total of 14 on the lower floor, the occupants of which, when seated, do not at all obstruct the view of those seated on the *dais*. The carriage is thus capable of containing 30 passengers. Besides the windows at the side, there are wooden slides to the coving of the roof, which, when drawn down, open with gauze ventilators, which let in the air, without admitting those draughts which are sometimes so injurious in the second-class carriages. For this application of wire-gauze we believe a patent has been obtained. The *dais* is fitted up with carpets, &c., and each end of the Tourist is lined with looking-glass, and has small ventilators for winter use. The other carriage, named the Gondola, is somewhat different in construction. It has open ends, like "stand-ups," from which doors open into a small but elegant saloon, each side of which is occupied by a sofa, covered with crimson velvet, and capable of seating six persons. There is a let-down seat within each door, so that this little centre will seat a party of 16, who may have greater freedom of movement than in the ordinary railway carriages, and may from time to time walk out into the air, either in front or rear. The junction or extension line of the Liverpool and Manchester Railway, from Ordsall-lane to Hunt's Bank (through Salford), to connect with the Manchester and Leeds extension, will be completed in March next.

USE OF IRON IN SHIP-BUILDING.

AMONG the new employments found for iron must be mentioned ship-building. Iron was first used about the year 1810 for the construction of vessels employed in canal and river navigation. After this, the next employment of this material occurred in 1820, when a steam vessel, called Aaron Manby, was constructed at the Horseley iron-works, and made the voyage between the capitals of England and France without unloading any part of her cargo; this vessel is still in good condition, although twenty-two years old, never having required any repairs to her hull. In 1825, a small iron steam-boat was placed on the river Shannon, where she is now employed, in good condition. In 1832, the Elburkah—an iron steam-vessel built by Messrs. Macgregor, Laird, and Co., in Liverpool, made the voyage from that port to the coast of Africa, and twice ascended the river Niger. This successful experiment led to the construction of many other iron steam-vessels. One builder, Mr. John Laird, of Birkenhead, near Liverpool, has built forty-five iron vessels, of the aggregate burden of 12,600 tons. The total number launched since 1830 is said to exceed 150. The largest iron vessel yet finished, and in use, is the Guadaloupe, a steam-frigate of 760 tons, carrying sixty-eight pounders, and belonging to the Mexican government; but her dimensions are insignificant when compared with those of the Great Britain, now building, and nearly finished, at Bristol. The length of this vessel, from her figure head to her trailboard, is 330 feet; the breadth of beam 51 feet; the depth of her hold 31 feet; her draught of water, when loaded, is calculated to be 16 feet; and her burden 3,500 tons. The engines will have a force equal to that of 1,000 horses, and will be used to keep in action, as the means of propulsion, an Archimedean screw. The draught of water will be seen to exceed that of a first-rate West-Indiaman. At present, this vessel can only be considered as an experiment; and should it fail, an abundance of ridicule will no doubt be cast upon the proprietors by men whose genius would hardly have suffered for the invention of a wherry. A great part of the steam navy of the East-India Company consists of iron vessels, twenty-five of which are now in use in India, among which are the Nemesis, the Ariadne, and the Medusa—names well known to the British public, from the conspicuous part which the vessels performed in the war with China. The advantages of iron over timber for naval architecture are—the absence of "wear and tear" in the hull, no necessity for caulking or coppering, no possibility of injury from dry rot, greater lightness, and increased capacity; and, what is of even far more importance, greater safety. This last point has sometimes been questioned, but not by any one having knowledge on the subject. When a timber built ship takes the ground with any violent shock, the whole framework of the vessel is strained, and in a measure dislocated, so that, by the mere buffetting of the waves, she will in all probability soon be made a complete wreck; but when an iron-built vessel strikes, however violent the blow, it is only the part that is brought into collision with the rocks that will be injured. The plan of building these ships in water-tight compartments, then proves its efficacy; for, should the injury amount even to the tearing away of the plates, the resulting mischief will only be to fill with water that particular compartment of the vessel to which the injury has occurred, so that the ship will be scarcely less buoyant than before; and experience has shewn that damage of this kind is easily repaired. The first cost of iron vessels is somewhat, but not much, less than that of the timber-built vessels; their comparative cheapness results from the greater durability. After years of constant employment, they are found to be as sound and as clean as when first built. Their weight, upon which depends the displacement of water, is as a general rule three-fifths the weight of wooden vessels of the same capacity. The weight of metal used in proportion to the burden of the ships varies of course with the size. A sea-going iron steam-vessel will take from nine to twelve cwt. of iron per ton register. Boats intended for river traffic, which do not require an equal degree of strength, of course take a less weight of metal. The building of iron ships is fast becoming an important branch of national industry; it is one which our mineral riches, and our great mechanical skill, will secure to us as a virtual monopoly.—*Porter's Progress of the Nation.*

THE NORTHEN COAL TRADE.

IN 1770 there were only 13 collieries on the Tyne, and in 1800 there were upwards of 30. In 1828 the number was increased to 41 on the Tyne, and to 18 on the Wear, making in all 59. The estimated powers of working possessed by these collieries—that is, the quantity of coal they are able to raise in a year—are calculated by the late Mr. Buddle, the most accurate and experienced viewer ever known in the trade, at 5,887,522 tons. In 1836 the number of collieries was again augmented on both rivers, and their powers of working extended to 6,123,922 tons yearly, being an increase in seven years of 2,236,400 tons, or nearly 38 per cent. In addition to this there were in that year new collieries already shipping coals, but not to the regulation, capable of producing another millions of tons, which swells the increase per cent. to nearly 55, or considerably more than half. Still the Tees is not included. From the year 1826, when coals first began to be shipped on the Tees, up to 1835, the quantity increased, year by year, from 18,581 to 357,726 tons, conveyed along the stockton and Darlington Railway alone. But in 1836 the Clarence Railway was in operation, and we may assume the powers on the Tees in that year to have exceeded 500,000 tons. Thus, then, from 1826 to 1836, the aggregate capabilities of the whole district has sprung from 5,941,812 (including the Tees) to 9,623,922, showing an increase of 3,682,130 tons, or fully 62½ per cent. Taking the next septennial period, from 1836 to 1843, the ratio is equally progressive. Hartlepool, in the interval has become a great and flourishing port; and all the collieries shipping there, with the exception of Thornley, are creations belonging to this cycle. Lord Londonderry's own snug little harbour of Seaham has grown into magnitude, and tripled its trade within the time. Two joint-stock companies have, during the while, been formed, each with a capital of nearly 500,000*l.* sterling, and which have sunk nearly the whole of their funds in exploring new coal-fields. Moreover, on the Blyth, the Tyne, the Wear, and the Tees, multitudinous fresh winnings have been made by private individuals and compa-